

**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-24 have been canceled and claims 25 to 48 have been added as follows:

**Listing of Claims:**

Claims 1-24 (canceled)

Claim 25 (new): An angle detecting apparatus comprising:

a first sensor and a second sensor provided on both ends of a moving portion connected to a fixed portion via an elastic body, the first sensor and the second sensor detecting displacements of the moving portion that is in an oscillating movement; and

an angle calculating unit that calculates a displacement angle of the moving portion based on the displacements detected by the first sensor and the second sensor and a distance between the first sensor and the second sensor.

Claim 26 (new): The angle detecting apparatus according to claim 25, wherein

each of the first sensor and the second sensor is a two-phase sensor.

Claim 27 (new): The angle detecting apparatus according to claim 25, further comprising:

a third sensor that detects an arbitrary predetermined position of the moving portion, wherein the angle calculating unit includes

a direction determining unit that determines an operating direction of each of the both

ends of the moving portion based on detection values of the first sensor and the second sensor; and  
a region determining unit that determines operating regions of the first sensor and the second sensor based on a result of position detection by the third sensor.

Claim 28 (new): The angle detecting apparatus according to claim 25, further comprising:  
an encoder plate that includes a slit group provided in a region corresponding to at least a locus of each of the first sensor and the second sensor, wherein  
the slit group is formed in parallel to a direction connecting the first sensor and the second sensor.

Claim 29 (new): The angle detecting apparatus according to claim 25, further comprising:  
an encoder plate that includes a slit group provided in a region corresponding to at least a locus of each of the first sensor and the second sensor, wherein  
the slit group is formed perpendicular to a direction connecting the first sensor and the second sensor.

Claim 30 (new): The angle detecting apparatus according to claim 28, wherein  
the encoder plate includes a light source that emits a light to the first sensor and the second sensor via the slit group, and  
each of the first sensor and the second sensor functions as a photo-interrupter-type sensor.

Claim 31 (new): The angle detecting apparatus according to claim 29, wherein  
the encoder plate includes a light source that emits a light to the first sensor and the second  
sensor via the slit group, and  
each of the first sensor and the second sensor functions as a photo-interrupter-type sensor.

Claim 32 (new): The angle detecting apparatus according to claim 28, wherein  
the slit group is a slit-like detector group that reflects or scatters lights from the first sensor  
and the second sensor, and  
each of the first sensor and the second sensor functions as a photo-reflector-type sensor.

Claim 33 (new): The angle detecting apparatus according to claim 29, wherein  
the slit group is a slit-like detector group that reflects or scatters lights from the first sensor  
and the second sensor, and  
each of the first sensor and the second sensor functions as a photo-reflector-type sensor.

Claim 34 (new): The angle detecting apparatus according to claim 28, wherein  
the slit group is a slit-like magnet group, and  
each of the first sensor and the second sensor functions as a magnetic sensor.

Claim 35 (new): The angle detecting apparatus according to claim 29, wherein  
the slit group is a slit-like magnet group, and  
each of the first sensor and the second sensor functions as a magnetic sensor.

Claim 36 (new): The angle detecting apparatus according to claim 28, wherein  
the encoder plate is integrally formed.

Claim 37 (new): The angle detecting apparatus according to claim 29, wherein  
the encoder plate is integrally formed.

Claim 38 (new): The angle detecting apparatus according to claim 27, wherein  
each of the first sensor and the second sensor is a two-phase sensor, and  
the direction determining unit detects a detection value of the two-phase sensor by  
multiplying the detection value by four.

Claim 39 (new): The angle detecting apparatus according to claim 25, further comprising:  
a correction table for correcting an error caused by a distance between the first sensor and  
the second sensor or an increase in an angle of the moving portion.

Claim 40 (new): A scanning-type actuator comprising:  
an angle detecting apparatus that includes

a first sensor and a second sensor provided on both ends of a moving portion connected to a fixed portion via an elastic body, the first sensor and the second sensor detecting displacements of the moving portion that is in an oscillating movement; and

an angle calculating unit that calculates a displacement angle of the moving portion based on the displacements detected by the first sensor and the second sensor and a distance between the first sensor and the second sensor;

an oscillating unit that oscillates the moving portion; and

an oscillation control unit that controls an oscillation of the moving portion by the oscillating unit based on a result of detection by the angle detecting apparatus.

Claim 41 (new): The scanning-type actuator according to claim 40, wherein each of the first sensor and the second sensor is a two-phase sensor.

Claim 42 (new): The scanning-type actuator according to claim 40, wherein the angle detecting apparatus further includes a third sensor that detects an arbitrary predetermined position of the moving portion, and the angle calculating unit includes

a direction determining unit that determines an operating direction of each of the both ends of the moving portion based on detection values of the first sensor and the second sensor; and

a region determining unit that determines operating regions of the first sensor and the second sensor based on a result of position detection by the third sensor.

Claim 43 (new): The scanning-type actuator according to claim 40, wherein  
the angle detecting apparatus further includes an encoder plate that includes a slit group provided in a region corresponding to at least a locus of each of the first sensor and the second sensor, and  
the slit group is formed in parallel to a direction connecting the first sensor and the second sensor.

Claim 44 (new): The scanning-type actuator according to claim 43, wherein  
the encoder plate includes a light source that emits a light to the first sensor and the second sensor via the slit group, and  
each of the first sensor and the second sensor functions as a photo-interrupter-type sensor.

Claim 45 (new): The scanning-type actuator according to claim 43, wherein  
the encoder plate is integrally formed.

Claim 46 (new): The scanning-type actuator according to claim 42, wherein  
each of the first sensor and the second sensor is a two-phase sensor, and  
the direction determining unit detects a detection value of the two-phase sensor by multiplying the detection value by four.

Claim 47 (new): The scanning-type actuator according to claim 40, wherein  
the angle calculating unit further includes a correction table for correcting an error caused  
by a distance between the first sensor and the second sensor or an increase in an angle of the moving  
portion.

Claim 48 (new): The scanning-type actuator according to claim 40, wherein  
the scanning-type actuator is used as a laser scanning apparatus.